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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,538	08/28/2003	Gary A. Diehl	ROC920030133US1	9039

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EXAMINER
CHRISTENSEN, SCOTT B

ART UNIT	PAPER NUMBER
2144	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

PTOL-90A (Rev. 10/06)

	Application No.	Applicant(s)
Office Action Summary	10/650,538	DIEHL ET AL.
	Examiner	Art Unit	
	Scott Christensen	2144	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>04 December 2006</u>.

2a) ☒ This action is **FINAL.**   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle,* 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-18</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-18</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>28 August 2003</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   Applicant's arguments and amendments filed on 4 December 2006 have been

carefully considered but they are not deemed fully persuasive. Applicant's arguments

are deemed moot in view of the following new grounds of rejection as explained here

below, necessitated by Applicant's substantial amendment to the claims which

significantly affected the scope thereof.

Claim Rejections - 35 USC § 101

2.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

3.   Claims 13-18 rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter. Claim 13 is drawn towards a computer

program product, which is stored on a computer recording medium. According to the

specification, page 7 lines 30-33, the program product may be stored on a transmission

type medium. Claims directed towards transmission media are non-statutory. To be

statutory, the medium that the program is stored on must be limited to memory type

media, such as a floppy disk, read only memory such as a compact disc or CD-ROM, a

tape, etc. Claims 14-18, which depend from claim 13, are rejected for the same.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 1-3 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee in US Patent number 7,088,689 B2, hereafter referred to as "Lee."

With regard to claims 1 and 13, Lee discloses a method and a computer program product with instructions for implementing proxy Address Resolution for Virtual Internet Protocol addresses comprising identifying a Virtual Internet Protocol interface requiring proxy ARP (Lee: Column 2, lines 19-26. If data is transferred between two VLANs (VLANs have virtual IP addresses associated with the nodes), then a Virtual Internet Protocol interface requiring proxy ARP is identified), dynamically selecting a proxy agent for said Virtual Internet Protocol interface (Lee: Column 2, lines 45-54), adding an IP address for said Virtual Internet Protocol interface to an address list of an associated physical adapter for said selected proxy agent (Lee: Column 3, lines 34-41), and utilizing said associated physical adapter for said selected proxy agent and broadcasting said added IP address for said Virtual Internet Protocol interface with a media access control address of said physical adapter for said selected proxy agent (Lee: Column 2, lines 45-53. The ARP request packet contains both the IP address, which is a Virtual IP address in this case, and the MAC address. This packet is broadcast to all nodes in the local subnet.).

Lee does not disclose expressly that the proxy agent and Virtual Internet protocol interface are in a same subnet.

It is noted that subnet is not explicitly defined in the applicant's specification. Subnet could conceivably have two definitions.

First, a subnet is a subset of any network.

Second, a subnet is a subnet as defined by RFC 917, "Internet Standard Subnetting Procedure," by Jeffrey Mogul in October of 1984, hereafter referred to as "RFC917."

Using the first definition, the proxy agent and Virtual Internet protocol interface are in the same subnet in the disclosure of Lee (Lee: Figure 2. As a subnet is a subset of any network, a subset may encompass the whole network, or a portion of the network. Even if Figure 2 shows the entire network, it can still constitute a subnet according to the first definition.).

Using the second definition, a person of ordinary skill in the art would have known how to have the proxy agent and Virtual Internet protocol interface in the same subnet.

Evidence of this can be found in RFC917. RFC917 discloses that a subnet is a logically visible sub-section of a single Internet network. This allows an organization to have a single connection to the Internet with one IP address for their entire network (RFC917: Page 1, Overview). When applied to Lee, all the components in the invention of Lee would be in the same subnet, as a single organization would likely be implementing the invention within their network.

It would have been obvious to a person of ordinary skill in the art to have the proxy agent and Virtual Internet protocol interface in the same subnet.

The suggestion/motivation would have been that organizations using subnets can use one number for several networks (RFC917: Overview). By implementing Lee's system on a single subnet, the nodes of the network would have a more direct communication line with each other, but still have access to the Internet.

With regard to claims 2 and 14, Lee further discloses identifying a broadcast ARP response for said Virtual Internet protocol interface (Lee: Abstract. The term "input/output processor response handler task" seems to simply identify the means that are utilized to identify a broadcast ARP response. Also, since a response occurs, it must have been identified), and continuing activation for said Virtual Internet protocol interface including enqueuing said Virtual Internet protocol interface to a proxy list of said selected proxy agents (Lee: Column 3, line 66 to column 4, line 12).

With regard to claims 3 and 15, Lee further discloses setting an associated local IP address of said selected proxy agent in said Virtual Internet protocol interface (This limitation is inherently present. The agent needs to have a local IP address in order to receive any packets, so the address must be set. "To complete activation for said Virtual Internet protocol (IP) interface," as recited in claim 15, is interpreted as intended use, and is not given weight).

Claim Rejections - 35 USC § 103

6.   Claims 4, 7-8, 10-12, 16, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee in view of Kirchner et al in US Patent number 6,263,370 B1, hereafter referred to as "Kirchner."

With regard to claim 8, Lee discloses an apparatus for implementing proxy Address Resolution Protocol for Virtual Internet protocol addresses comprising a local network (Lee: Fig. 2, VLAN 1 and VLAN 2. Virtual Local Area Networks are interpreted as being similar to the local network as specified in the claim), a server computer having a Virtual Internet protocol code for dynamically selecting a proxy agent for said Virtual Internet protocol interface (Lee: Column 2, lines 45-54), code for dynamically selecting a proxy agent for said Virtual internet protocol interface (Lee: Column 2, lines 45-54), and a proxy ARP (Lee: Abstract) for Virtual AP interface initiation task for adding an IP address for said Virtual Internet protocol interface to an address list of an associated one of said physical adapters for said selected proxy agent (Lee: Column 3, lines 34-41) and for utilizing said physical adapter for said selected proxy agent for broadcasting said added IP address for said Virtual Internet protocol interface with a media access control address of said physical adapter for said selected proxy agent (Lee: Column 2, lines 45-53. The ARP request packet contains both the IP address, which is a Virtual IP address in this case, and the MAC address. This packet is broadcast to all nodes in the local subnet.).

Lee does not disclose expressly that the code for selecting a proxy agent is within the TCP/IP standard.

Kirchner discloses using a TCP/IP interface for a client-server interface, where the server acts as a proxy (Kirchner: Column 10, lines 22-43).

It would have been obvious to a person of ordinary skill in the art to combine TCP/IP of Kirchner with the proxy Address Resolution Protocol of Lee.

The suggestion/motivation for doing so would have been that TCP/IP was a very well known protocol, used in many networks and the Internet. By using TCP/IP, the proxy Address Resolution protocol would be compatible with more networks.

With regard to claims 4 and 16, Lee discloses all of the limitations of claims 4 and 16 (see above for rejections of claims 1 and 13 rejected under Lee) except that the step of dynamically selecting said proxy agent for said Virtual Internet protocol interface includes providing TCP/IP code for dynamically selecting said proxy agent.

Kirchner discloses using a TCP/IP interface for a client-server interface, where the server acts as a proxy (Kirchner: Column 10, lines 22-43). When combined with Lee, since the communications would be performed through TCP/IP, code involving TCP/IP would be utilized to find and assign the proxy agent. Thus, TCP/IP code is provided for dynamically selecting said proxy agent.

It would have been obvious to a person of ordinary skill in the art to combine TCP/IP of Kirchner with the proxy Address Resolution Protocol of Lee.

The suggestion/motivation for doing so would have been that TCP/IP was a very well known protocol, used in many networks and the Internet. By using TCP/IP, the proxy Address Resolution protocol would be compatible with more networks.

With regard to claim 7, Lee discloses all of the limitations of claim 7 (see above for claim 1 rejected under Lee) including that the step of dynamically selecting said proxy agent for said Virtual Internet protocol interface includes answering ARP requests for Virtual Internet protocol addresses (Lee: Abstract). Lee does not disclose expressly that this is done through TCP/IP code.

Kirchner discloses using a TCP/IP interface for a client-server interface, where the server acts as a proxy (Kirchner: Column 10, lines 22-43). When combined with Lee, since the communications would be performed through TCP/IP, any response to a message would involve TCP/IP messages, which would be in a code conforming to TCP/IP.

It would have been obvious to a person of ordinary skill in the art to combine TCP/IP of Kirchner with the proxy Address Resolution Protocol of Lee.

The suggestion/motivation for doing so would have been that TCP/IP was a very well known protocol, used in many networks and the Internet. By using TCP/IP, the proxy Address Resolution protocol would be compatible with more networks.

With regard to claim 10, Lee as modified by Kirchner teaches that the TCP/IP code (see above for claim 8 rejected under Lee in view of Kirchner) answers ARP requests to said Virtual Internet protocol address (Lee: Abstract), said ARP requests being provided without a parameter defining an associated local interface being specified with said ARP requests to said Virtual Internet protocol address (Lee: Column 4, lines 13-26. The virtual ARP request does not identify the local interface that the ARP request is actually for, but rather identifies the proxy ARP server.).

With regard to claim 11, Lee as modified by Kirchner teaches an input/output processor response handler task for identifying a broadcast ARP response for said Virtual Internet protocol interface (Lee: Abstract. The term "input/output processor response handler task" seems to simply identify the means that are utilized to identify a broadcast ARP response. Also, since a response occurs, it must have been identified),

and for continuing activation for said Virtual Internet protocol interface including

enqueuing said Virtual Internet protocol interface to a proxy list of said selected proxy

agent (Lee: Column 3, line 66 to column 4, line 12).

With regard to claim 12, Lee as modified by Kirchner teaches that the IOP

response handler task (see above for claim 11 rejected under Lee as modified by

Kirchner) is adapted for setting an associated local IP address of said selected proxy

agent in said Virtual Internet protocol interface to complete activation for said Virtual

Internet protocol interface (Lee: Column 3, lines 34 to 47. As the IP address is stored in

the memory, the IP address associated with the given MAC address was set, at least in

the memory. When the memory is set with the IP address, for all purposes, activation of

the Virtual IP interface is completed, at least with respect to the server).

With regard to claim 18, Lee as modified by Kirchner teaches that the TCP/IP

code (see above for claim 16 rejected under Lee in view of Kirchner. Since the code

running the program is written to utilize TCP/IP, it is interpreted as being TCP/IP code)

utilizes said physical adapter for said selected proxy agent for answering ARP requests

to said Virtual Internet protocol address (Lee: Abstract. As the proxy ARP server (or

agent) sends a packet in response to receiving the ARP request packet, the response

must utilize the physical adapter of the agent in order to reach the network.), said ARP

requests being provided without a parameter defining an associated local interface

being specified with said ARP requests to said Virtual Internet protocol address (Lee:

Column 4, lines 13-26. The virtual ARP request does not identify the local interface that

the ARP request is actually for, but rather identifies the proxy ARP server.).

Thus, it would have been obvious to combine Kirchner with Lee to obtain the

invention as specified in claims 4, 7-8, 10-12, 16, 18.

7.   Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee in

view of Subramaniam et al. in US Patent number 6,070,187, hereafter referred to as

"Subramaniam."

Lee discloses all of the limitations of claim 6 (see above for claim 1 rejected

under Lee) except that the step of dynamically selecting said proxy agent for said Virtual

Internet protocol interface includes checking for a proxy agent in the same subnet as

said Virtual Internet protocol interface.

Subramaniam discloses a configuration agent that sets up a proxy agent, where

the proxy agent's actions are dependent on whether the server and the node are on the

same subnet or different subnets (Subramaniam: Column 6, lines 38-57). In order to

treat the packets differently, the system must check to see if the proxy agent is in the

same subnet or a separate subnet. Thusly, Subramaniam checks for a proxy agent in

the same (as well as a different) subnet.

It would have been obvious to a person of ordinary skill in the art to combine the

subnet checking as taught by Subramaniam with the proxy Address Resolution Protocol

of Lee.

The suggestion/motivation for doing so would have been that by checking

whether the network elements exist on the same subnet or different subnets, the system

is able to treat packets in a method that is preferred for the two different configurations.

This makes the system able to better adapt for individual needs (Subramaniam: Column

6, lines 38-57). Likewise, the teachings of Subramaniam allow a network administrator to expand a network by adding switches and bridges while maintaining automatic configuration, and without significantly increasing traffic routed to routers (Subramaniam: Column 15, lines 17-26).

Thus it would have been obvious to combine Subramaniam with Lee to obtain the invention as specified in claim 6.

8.   Claims 9 and 17 rejected under 35 U.S.C. 103(a) as being unpatentable over Lee in view of Kirchner as applied to claims 8 and 16 above, and further in view of Smyk in US Patent number 6,289,001 B1, hereafter referred to as "Smyk."

Lee as modified by Kirchner teaches all of the limitations of claims 9 and 17 (see above for claims 8 and 16 rejected under Lee in view of Kirchner) except that the TCP/IP code is responsive to a failure of said physical adapter for said selected proxy agent, for dynamically selecting a new proxy agent for said Virtual Internet protocol interface.

Smyk discloses a proxy agent selector that identifies alternate proxy agents should one or more of the other proxy agents fail and selects one or more alternate proxy agents (Smyk: Abstract).

It would have been obvious to a person of ordinary skill in the art to combine the proxy selector of Smyk with the proxy Address Resolution Protocol of Lee as modified by Kirchner.

The suggestion/motivation for doing so would have been to allow proxy signaling to continue undisturbed in case of a failure (Smyk: Abstract).

Thus, it would have been obvious to combine Smyk with Lee and Kirchner to obtain the invention as specified in claims 9 and 17.

9.   Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee in view of Kirchner and Smyk.

Lee discloses all of the limitations of claim 5 (see above for claim 1 rejected under Lee) except that the said selected proxy agent fails, and a new proxy agent is dynamically selected for said Virtual Internet protocol interface by TCP/IP code.

Kirchner discloses using a TCP/IP interface for a client-server interface, where the server acts as a proxy (Kirchner: Column 10, lines 22-43). If TCP/IP were used with Lee, any selection would involve code written to conform to the TCP/IP standard.

It would have been obvious to a person of ordinary skill in the art to combine TCP/IP of Kirchner with the proxy Address Resolution Protocol of Lee.

The suggestion/motivation for doing so would have been that TCP/IP was a very well known protocol, used in many networks and the Internet. By using TCP/IP, the proxy Address Resolution protocol would be compatible with more networks.

Smyk discloses a proxy agent selector that identifies alternate proxy agents should one or more of the other proxy agents fail and selects one or more alternate proxy agents (Smyk: Abstract).

It would have been obvious to a person of ordinary skill in the art to combine the proxy selector of Smyk with the proxy Address Resolution Protocol of Lee as modified by Kirchner.

The suggestion/motivation for doing so would have been to allow proxy signaling to continue undisturbed in case of a failure (Smyk: Abstract).

Thus, it would have been obvious to combine Smyk with Lee and Kirchner to obtain the invention as specified in claim 5.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Christensen whose telephone number is (571)
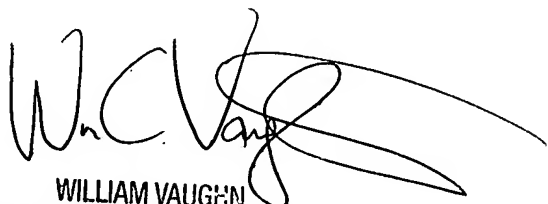
270-1144. The examiner can normally be reached on Monday through Thursday
6:30AM - 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, Vaughn William can be reached on (571) 272-3922. The fax phone number
for the organization where this application or proceeding is assigned is 571-273-8300.

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SBC

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